CRF Errors Corrected by the STIC Systems Branch

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JUN 2 6 2001

#10
MB
06/23/01

Serial Number: 09/441,966

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐ Edited a format error in the Current Application Data section, specifically:
_____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:
_____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:
_____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:
_____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included:
_____

☐ Deleted extra, invalid, headings used by an applicant, specifically:
_____

☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as_____.

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically:
_____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically:
_____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☑ Other: inserted hard return before <130>
_____
_____
_____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.   3/1/95

RAW SEQUENCE LISTING   DATE: 05/29/2001
PATENT APPLICATION: US/09/441,966   TIME: 17:20:15

        Input Set : A:\Pto.amc
        Output Set: C:\CRF3\05292001\I441966.raw

 2 <110> APPLICANT: Hall, Roderick L
 3   Poll, Christopher T.
 4   Newton, Benjamin B.
 5   Taylor, William J.A.
 7 <120> TITLE OF INVENTION: A Method for Accelerating the Rate of Mucociliary Clearance
 9 <130> FILE REFERENCE: 98,736-A
11 <140> CURRENT APPLICATION NUMBER: 09/441,966
12 <141> CURRENT FILING DATE: 1999-11-17
14 <150> PRIOR APPLICATION NUMBER: 09/218,913
15 <151> PRIOR FILING DATE: 1998-12-22
17 <160> NUMBER OF SEQ ID NOS: 71
19 <170> SOFTWARE: Microsoft Word 97
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 179
23 <212> TYPE: PRT
24 <213> ORGANISM: Homo sapien
26 <400> SEQUENCE: 1
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28 1   5   10   15
30 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
31   20   25   30
33 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
34   35   40   45
36 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
37   50   55   60
39 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
40 65   70   75   80
42 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
43   85   90   95
45 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
46   100   105   110
48 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
49   115   120   125
51 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
52   130   135   140
54 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
55 145   150   155   160
57 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
58   165   170   175
60 Ala Val Ser
63 <210> SEQ ID NO: 2
64 <211> LENGTH: 197
65 <212> TYPE: PRT
66 <213> ORGANISM: Homo sapien
68 <220> FEATURE:
69 <221> NAME/KEY: sig_peptide
70 <222> LOCATION: 1..18

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74 1               5                   10                  15
76 Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
77            20                  25                  30
79 Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
80            35                  40                  45
82 Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
83        50                  55                  60
85 Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
86 65                  70                  75                  80
88 Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
89                85                  90                  95
91 Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
92            100                 105                 110
94 His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
95            115                 120                 125
97 Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
98        130                 135                 140
100 Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
101 145                 150                 155                 160
103 Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
104                165                 170                 175
106 Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
107                180                 185                 190
109 Ala Gly Ala Val Ser
110            195
112 <210> SEQ ID NO: 3
113 <211> LENGTH: 153
114 <212> TYPE: PRT
115 <213> ORGANISM: Homo sapien
117 <400> SEQUENCE: 3
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119 1               5                   10                  15
121 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
122            20                  25                  30
124 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
125            35                  40                  45
127 Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly
128     50                  55                  60
130 Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala
131 65                  70                  75                  80
133 Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr
134                85                  90                  95
136 Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser
137            100                 105                 110
139 Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe
140            115                 120                 125
142 Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu
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143      130                    135                    140
145 Ala Cys Met Leu Arg Cys Phe Arg Gln
146 145                 150
148 <210> SEQ ID NO: 4
149 <211> LENGTH: 58
150 <212> TYPE: PRT
151 <213> ORGANISM: Homo sapien
153 <400> SEQUENCE: 4
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155 1               5                   10                  15
157 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
158             20                  25                  30
160 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
161         35                  40                  45
163 Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
164     50                  55
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167 <211> LENGTH: 51
168 <212> TYPE: PRT
169 <213> ORGANISM: Homo sapien
171 <400> SEQUENCE: 5
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173 1               5                   10                  15
175 Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
176             20                  25                  30
178 Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
179         35                  40                  45
181 Lys Lys Cys
182     50
184 <210> SEQ ID NO: 6
185 <211> LENGTH: 58
186 <212> TYPE: PRT
187 <213> ORGANISM: Homo sapien
189 <400> SEQUENCE: 6
190 Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
191 1               5                   10                  15
193 Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
194             20                  25                  30
196 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
197         35                  40                  45
199 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln
200     50                  55
202 <210> SEQ ID NO: 7
203 <211> LENGTH: 51
204 <212> TYPE: PRT
205 <213> ORGANISM: Homo sapien
207 <400> SEQUENCE: 7
208 Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
209 1               5                   10                  15
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RAW SEQUENCE LISTING   DATE: 05/29/2001
PATENT APPLICATION: US/09/441,966   TIME: 17:20:15

Input Set : A:\Pto.amc
Output Set: C:\CRF3\05292001\I441966.raw

211 Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
212   20   25   30
214 Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
215   35   40   45
217 Leu Arg Cys
218   50
220 <210> SEQ ID NO: 8
221 <211> LENGTH: 92
222 <212> TYPE: PRT
223 <213> ORGANISM: Homo sapien
225 <400> SEQUENCE: 8
226 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
227 1   5   10   15
229 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
230   20   25   30
232 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
233   35   40   45
235 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
236   50   55   60
238 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
239 65   70   75   80
241 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser
242   85   90
244 <210> SEQ ID NO: 9
245 <211> LENGTH: 708
246 <212> TYPE: DNA
247 <213> ORGANISM: Homo sapien
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: 679..708
252 <223> OTHER INFORMATION: /note= "n at positions 622, 679, 707 is any nucleic acid"
254 <400> SEQUENCE: 9
255 ggccgggtcg tttctcgcct ggctgggatc gctgctcctc tctggggtcc tggcggccga   60
257 ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtggtgggca gatgccgggc   120
259 ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg   180
261 gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc   240
263 cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc   300
265 tgtcccaagt gctcccagaa ggcaggattc tgaagaccac tccagcgata tgttcaacta   360
267 tgaagaatac tgcaccgcca acgcagtcac tgggccttgc cgtgcatcct tcccacgctg   420
269 gtactttgac gtggagagga actcctgcaa taacttcatc tatggaggct gccggggcaa   480
271 taagaacagc taccgctctg aggaggcctg catgctccgc tgcttccgcc agcaggagaa   540
273 tcctcccctg ccccttggct caaaggtggt ggttctggcc ggggctgttt cgtgatggtg   600
W--> 275 ttgatccttt tcctggggag cntccatggt cttactgatt ccgggtggca aggaggaacc   660
W--> 277 aggagcgtgc cctgcgganc gtctggagct tcggagatga caagggnt   708
279 <210> SEQ ID NO: 10
280 <211> LENGTH: 235
281 <212> TYPE: PRT
282 <213> ORGANISM: Homo sapien
284 <220> FEATURE:

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    285 <221> NAME/KEY: peptide
    286 <222> LOCATION: 1..235
    287 <223> OTHER INFORMATION: /note= "Xaa at positions 198, 201, 226, and 233 are unknown
    288      amino acids"
    290 <400> SEQUENCE: 10
    291 Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
    292 1               5                   10                  15
    294 Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
    295             20                  25                  30
    297 Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
    298             35                  40                  45
    300 Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
    301         50                  55                  60
    303 Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
    304 65                  70                  75                  80
    306 Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
    307                 85                  90                  95
    309 Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
    310             100                 105                 110
    312 His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
    313         115                 120                 125
    315 Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
    316         130                 135                 140
    318 Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
    319 145                 150                 155                 160
    321 Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
    322                 165                 170                 175
    324 Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
    325                 180                 185                 190
W--> 327 Ala Gly Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser
    328         195                 200                 205
    330 Met Val Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro
    331         210                 215                 220
W--> 333 Ala Xaa Arg Leu Glu Leu Arg Arg Xaa Gln Gly
    334 225                 230                 235
    336 <210> SEQ ID NO: 11
    337 <211> LENGTH: 179
    338 <212> TYPE: PRT
    339 <213> ORGANISM: Homo sapien
    341 <220> FEATURE:
    342 <221> NAME/KEY: peptide
    343 <222> LOCATION: 1..170
    344 <223> OTHER INFORMATION: /note= "Xaa at positions 8, 17, 19, 21-26, 40, 42, 45-47,
52, 64,
    345      103, 112, 114, 116-121, 135, 137, 140-142, 147, and 159 is any
    346      amino acid residue"
    348 <400> SEQUENCE: 11
W--> 349 Ala Asp Arg Glu Arg Ser Ile Xaa Asp Phe Cys Leu Val Ser Lys Val
    350 1               5                   10                  15
W--> 352 Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Trp Tyr Asn Val Thr
```

Pleas Note:
Use of n and/ r Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing t ensure that a corresponding explanation is presented in the <220> to
<223> fields f each sequence which presents at least ne n or Xaa.

f...../ ...\...\...\...\VSI1441966.html   5/29/01

VERIFICATION SUMMARY   DATE: 05/29/2001
PATENT APPLICATION: **US/09/441,966**   TIME: 17:20:17

Input Set : **A:\Pto.amc**
Output Set: **C:\CRF3\05292001\I441966.raw**

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L:275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:277 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:333 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:349 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:352 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:355 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:358 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:367 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:370 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:376 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:422 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:430 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:13
L:459 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:462 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:465 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:493 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:508 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:532 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:538 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:552 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:566 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:589 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:591 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:601 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:18
L:995 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:45
L:1102 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:47
L:1209 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:49
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P. Jung

```
RAW SEQUENCE LISTING              DATE: 05/16/2001
PATENT APPLICATION:  US/09/441,966    TIME: 09:48:29

Input Set : A:\98,736-a.Seq.Lst.2nd.rev.txt
Output Set: N:\CRF3\05162001\I441966.raw
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Does Not Comply
Corrected Diskette Needed

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    3 <110> APPLICANT: Hall, Roderick L
    4        Poll, Christopher T.
    5        Newton, Benjamin B.
    6        Taylor, William J.A.
    8 <120> TITLE OF INVENTION: A Method for Accelerating the Rate of Mucociliary Clearance<130>
98,736-A
W--> 0 <130> FILE REFERENCE:
   10 <140> CURRENT APPLICATION NUMBER: 09/441,966
   11 <141> CURRENT FILING DATE: 1999-11-17
   13 <150> PRIOR APPLICATION NUMBER: 09/218,913
   14 <151> PRIOR FILING DATE: 1998-12-22
   16 <160> NUMBER OF SEQ ID NOS: 71
   18 <170> SOFTWARE: Microsoft Word 97
   20 <210> SEQ ID NO: 1
   21 <211> LENGTH: 179
   22 <212> TYPE: PRT
   23 <213> ORGANISM: Homo sapien
   25 <400> SEQUENCE: 1
   26 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
   27 1               5                   10                  15
   29 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
   30             20                  25                  30
   32 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
   33             35                  40                  45
   35 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
   36        50                  55                  60
   38 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
   39 65                  70                  75                  80
   41 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
   42             85                  90                  95
   44 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
   45             100                 105                 110
   47 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
   48         115                 120                 125
   50 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
   51        130                 135                 140
   53 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
   54 145                 150                 155                 160
   56 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
   57             165                 170                 175
   59 Ala Val Ser
   62 <210> SEQ ID NO: 2
   63 <211> LENGTH: 197
   64 <212> TYPE: PRT
   65 <213> ORGANISM: Homo sapien
   67 <220> FEATURE:
   68 <221> NAME/KEY: sig_peptide
   69 <222> LOCATION: 1..18
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 72 Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
 73 1               5                  10                  15
 75 Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
 76             20                  25                  30
 78 Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
 79         35                  40                  45
 81 Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
 82     50                  55                  60
 84 Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
 85 65                  70                  75                  80
 87 Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
 88             85                  90                  95
 90 Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
 91             100                 105                 110
 93 His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
 94         115                 120                 125
 96 Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
 97     130                 135                 140
 99 Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
100 145                 150                 155                 160
102 Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
103                 165                 170                 175
105 Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
106             180                 185                 190
108 Ala Gly Ala Val Ser
109         195
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113 <212> TYPE: PRT
114 <213> ORGANISM: Homo sapien
116 <400> SEQUENCE: 3
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118 1               5                  10                  15
120 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
121             20                  25                  30
123 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
124         35                  40                  45
126 Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly
127     50                  55                  60
129 Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala
130 65                  70                  75                  80
132 Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr
133             85                  90                  95
135 Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser
136             100                 105                 110
138 Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe
139         115                 120                 125
141 Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu
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RAW SEQUENCE LISTING   DATE: 05/16/2001
PATENT APPLICATION: US/09/441,966   TIME: 09:48:29

            Input Set : A:\98,736-a.Seq.Lst.2nd.rev.txt
            Output Set: N:\CRF3\05162001\I441966.raw

142   130   135   140
144 Ala Cys Met Leu Arg Cys Phe Arg Gln
145 145   150
147 <210> SEQ ID NO: 4
148 <211> LENGTH: 58
149 <212> TYPE: PRT
150 <213> ORGANISM: Homo sapien
152 <400> SEQUENCE: 4
153 Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala
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156 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
157   20   25   30
159 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
160   35   40   45
162 Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
163   50   55
165 <210> SEQ ID NO: 5
166 <211> LENGTH: 51
167 <212> TYPE: PRT
168 <213> ORGANISM: Homo sapien
170 <400> SEQUENCE: 5
171 Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg
172 1   5   10   15
174 Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
175   20   25   30
177 Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
178   35   40   45
180 Lys Lys Cys.
181   50
183 <210> SEQ ID NO: 6
184 <211> LENGTH: 58
185 <212> TYPE: PRT
186 <213> ORGANISM: Homo sapien
188 <400> SEQUENCE: 6
189 Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
190 1   5   10   15
192 Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
193   20   25   30
195 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
196   35   40   45
198 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln
199   50   55
201 <210> SEQ ID NO: 7
202 <211> LENGTH: 51
203 <212> TYPE: PRT
204 <213> ORGANISM: Homo sapien
206 <400> SEQUENCE: 7
207 Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
208 1   5   10   15

file://C:\CRF3\Outhold\VsrI441966.htm   5/16/01

RAW SEQUENCE LISTING   DATE: 05/16/2001
PATENT APPLICATION: US/09/441,966   TIME: 09:48:29

Input Set : A:\98,736-a.Seq.Lst.2nd.rev.txt
Output Set: N:\CRF3\05162001\I441966.raw

```
210 Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
211             20                  25                  30
213 Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
214         35                  40                  45
216 Leu Arg Cys
217     50
219 <210> SEQ ID NO: 8
220 <211> LENGTH: 92
221 <212> TYPE: PRT
222 <213> ORGANISM: Homo sapien
224 <400> SEQUENCE: 8
225 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
226 1               5                  10                  15
228 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
229             20                  25                  30
231 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
232         35                  40                  45
234 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
235     50                  55                  60
237 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
238 65                  70                  75                  80
240 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser
241                 85                  90
243 <210> SEQ ID NO: 9
244 <211> LENGTH: 708
245 <212> TYPE: DNA
246 <213> ORGANISM: Homo sapien
248 <220> FEATURE:
249 <221> NAME/KEY: misc_feature
250 <222> LOCATION: 679..708
251 <223> OTHER INFORMATION: /note= "n at positions 622, 679, 707 is any nucleic acid"
253 <400> SEQUENCE: 9
254 ggccgggtcg tttctcgcct ggctgggatc gctgctcctc tctggggtcc tggcggccga     60
256 ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtggtgggca gatgccgggc    120
258 ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg    180
260 gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc    240
262 cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc    300
264 tgtcccaagt gctcccagaa ggcaggattc tgaagaccac tccagcgata tgttcaacta    360
266 tgaagaatac tgcaccgcca acgcagtcac tgggccttgc cgtgcatcct tcccacgctg    420
268 gtactttgac gtggagagga actcctgcaa taacttcatc tatgaggct gccggggcaa    480
270 taagaacagc taccgctctg aggaggcctg catgctccgc tgcttccgcc agcaggagaa    540
272 tcctcccctg ccccttggct caaaggtggt ggttctggcc ggggctgttt cgtgatggtg    600
W--> 274 ttgatccttt tcctggggag cntccatggt cttactgatt ccgggtggca aggaggaacc    660
W--> 276 aggagcgtgc cctgcgganc gtctggagct tcggagatga caagggnt               708
278 <210> SEQ ID NO: 10
279 <211> LENGTH: 235
280 <212> TYPE: PRT
281 <213> ORGANISM: Homo sapien
283 <220> FEATURE:
```

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                RAW SEQUENCE LISTING              DATE: 05/16/2001
                PATENT APPLICATION:  US/09/441,966      TIME: 09:48:29

                Input Set : A:\98,736-a.Seq.Lst.2nd.rev.txt
                Output Set: N:\CRF3\05162001\I441966.raw

284  <221> NAME/KEY: peptide
285  <222> LOCATION: 1..235
286  <223> OTHER INFORMATION: /note= "Xaa at positions 198, 201, 226, and 233 are unknown
287       amino acids"
289  <400> SEQUENCE: 10
290  Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
291  1               5                   10                  15
293  Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
294              20                  25                  30
296  Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
297          35                  40                  45
299  Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
300      50                  55                  60
302  Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
303  65                  70                  75                  80
305  Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
306              85                  90                  95
308  Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
309              100                 105                 110
311  His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
312          115                 120                 125
314  Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
315      130                 135                 140
317  Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
318  145                 150                 155                 160
320  Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
321                  165                 170                 175
323  Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
324                  180         /       185         190
326  Ala Gly Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser    W-->
327          195                 200                 205
329  Met Val Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro
330      210                 215                 220
332  Ala Xaa Arg Leu Glu Leu Arg Arg Xaa Gln Gly    W-->
333  225                 230                 235
335  <210> SEQ ID NO: 11
336  <211> LENGTH: 179
337  <212> TYPE: PRT
338  <213> ORGANISM: Homo sapien
340  <220> FEATURE:
341  <221> NAME/KEY: peptide
342  <222> LOCATION: 1..170
343  <223> OTHER INFORMATION: /note= "Xaa at positions 8, 17, 19, 21-26, 40, 42, 45-47, 52, 64,
344       103, 112, 114, 116-121, 135, 137, 140-142, 147, and 159 is any
345       amino acid residue"
347  <400> SEQUENCE: 11
348  Ala Asp Arg Glu Arg Ser Ile Xaa Asp Phe Cys Leu Val Ser Lys Val    W-->
349  1               5                   10                  15
351  Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Trp Tyr Asn Val Thr    W-->
```

Please Note:

Use f n and/ r Xaa have been detected in the Sequence Listing. Please revi w the
Sequence Listing t ensure that a c rresponding explanati n is present d in the <220> t
<223> fields of each sequence which pres nts at least ne n or Xaa.

VERIFICATION SUMMARY   DATE: 05/16/2001
PATENT APPLICATION: US/09/441,966   TIME: 09:48:30

Input Set : A:\98,736-a.Seq.Lst.2nd.rev.txt
Output Set: N:\CRF3\05162001\I441966.raw

```
L:0 M:201 W: Mandatory field data missing, FILE REFERENCE
L:274 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:332 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:354 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:357 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:372 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:421 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:429 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:13
L:458 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:461 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:494 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:507 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:510 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:531 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:534 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:537 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:551 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:565 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:600 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:18
L:994 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:45
L:1101 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:47
L:1208 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:49
```